

Claims

What is claimed is:

1. Circuitry facilitating improved DC offset correction comprising:
 - a plurality of low noise amplifiers (LNAs);
 - a plurality of terminating impedances, each of said plurality of terminating impedances corresponding to a different one of said plurality of LNAs; and
 - a control system adapted to:
 - determine an active LNA from amongst the plurality of LNAs;
 - turn off the active LNA;
 - select an unused LNA from amongst the plurality of LNAs;
 - turn on the selected unused LNA; and
 - terminate an input of the selected unused LNA to ground with one of said plurality of terminating impedances while a DC offset is determined and a DC offset correction is calculated.
2. The circuitry of claim 1 further comprising a plurality of filters, each of said plurality of filters associated with different ones of said plurality of LNAs.
3. The circuitry of claim 2 wherein each of said terminating impedances selectively links an input of a corresponding one of said plurality of filters to ground, thereby terminating the input of the selected unused LNA to ground.
4. The circuitry of claim 1 further comprising a plurality of switches, each of said plurality of switches corresponding to different ones of said plurality of LNAs.
5. The circuitry of claim 4 wherein said plurality of switches comprises a plurality of transmit/receive switches.
6. The circuitry of claim 4 wherein said plurality of switches comprises a plurality of switches adapted to activate said plurality of terminating impedances.

7. The circuitry of claim 1 further comprising a first plurality of switches, each of said first plurality of switches corresponding to different ones of said LNAs; and a second plurality of switches, each of said second plurality of switches corresponding to different ones of said LNAs.
8. The circuitry of claim 7 wherein said first plurality of switches comprises a plurality of transmit/receive switches and said second plurality of switches comprises a plurality of switches adapted to activate said plurality of terminating impedances.
9. The circuitry of 1 further comprising DC offset correction calculation circuitry adapted to determine the DC offset and calculate the DC offset correction, said DC offset correction calculation circuitry operatively connected to said plurality of LNAs.
10. The circuitry of claim 1 further comprising a serial data interface adapted to operate in conjunction with said control system and turn on and turn off LNAs.
11. A method of performing DC offset correction, comprising:
 - turning off an active low noise amplifier (LNA);
 - turning on an unused LNA;
 - terminating a input associated with the unused LNA with a terminating impedance;
 - determining a DC offset; and
 - calculating a DC offset correction.
12. The method of claim 11 further comprising decoupling an antenna from the active LNA and the unused LNA.
13. The method of claim 11 further comprising using a filter with the unused LNA.

14. The method of claim 13 wherein using a filter comprises using a surface acoustic wave filter.
15. The method of claim 11 wherein turning on an unused LNA comprises using a serial data interface to turn on the unused LNA.
16. The method of claim 11 further comprising turning off the unused LNA and turning on an active LNA subsequent to calculating a DC offset correction.
17. The method of claim 11 wherein terminating an impedance associated with the unused LNA comprises activating a switch that couples to a resistor.
18. The method of claim 11 wherein turning off the active LNA comprises opening a switch.
19. The method of claim 11 wherein said method operates in a multi-mode mobile terminal.
20. The method of claim 11 further comprising providing the DC offset correction for correcting a DC offset output from the active LNA.
21. The method of claim 11 further comprising using the DC offset correction upon an incoming signal operated on by the active LNA.
22. A multi-mode mobile terminal comprising:
 - an antenna adapted to send and receive signals;
 - a switching module comprising:
 - a plurality of transmit/receive switches, said plurality of transmit/receive switches corresponding to a number of modes available to said multi-mode mobile terminal;
 - a plurality of filters, each of said filters associated with a corresponding one of said transmit/receive switches;

a plurality of terminating impedances, each of said filters associated with a corresponding one of said terminating impedances; and

a plurality of impedance terminating switches, each of said impedance terminating switches associated with a corresponding one of said terminating impedances;

DC offset correction circuitry adapted to determine a DC offset and calculate a DC offset correction;

receiver circuitry comprising:

a plurality of low noise amplifiers (LNAs), each of said LNAs associated with one of said filters; and

a control system adapted to:

turn on an unused LNA within said plurality of LNAs;

turn off an active LNA within said plurality of LNAs;

close the impedance terminating switch associated with the unused LNA so as to connect an input of the corresponding LNA to ground; and

control the DC offset correction circuitry.

23. A switching module comprising:

a plurality of switches adapted to couple and decouple an antenna to transmit and receive paths associated with a radio frequency transceiver;

a plurality of filters, each of said filters associated with different ones of said plurality of switches, each of said filters adapted to output a signal to a low noise amplifier (LNA) in a receiver module;

said switching module a distinct module adapted to be placed in a mobile terminal; and

a plurality of terminating impedances, each of said terminating impedances connected to a different one of said plurality of filters via a terminating switch

24. The switching module of claim 23 wherein each of said plurality of filters is a surface acoustic wave filter.

25. The switching module of claim 23 wherein each of said plurality of switches is adapted to be controlled by a control system within the mobile terminal.